

THE INVENTION CLAIMED IS:

1. A method for forming an integrated circuit package, comprising:

providing a leadframe having a lead finger;

forming a groove in the lead finger;

5 placing a conductive bonding agent in the groove; and

placing an electronic device in the groove to be held by the conductive bonding agent.

2. The method as claimed in claim 1 wherein providing the leadframe provides the lead finger having a tip of at least one of the configurations of straight, increased width, side extension, flared, offset, extended, or a combination thereof.

10 3. The method as claimed in claim 1 further comprising forming the lead finger into an external lead around at least a portion of the integrated circuit package.

4. The method as claimed in claim 1 wherein forming the groove includes forming a reservoir for the conductive bonding agent adjacent to the groove.

5. The method as claimed in claim 1 further comprising:

15 providing a leadframe paddle;

forming a groove in the leadframe paddle;

placing a conductive bonding agent in the groove; and

placing the electronic device in the groove to be held by the conductive bonding agent.

20 6. The method as claimed in claim 1 further comprising:

bonding an integrated circuit die by at least one of wire or ball to the lead finger; and

forming at least one of a solder bump or a ball grid array ball on the lead finger.

7. A method for forming an integrated circuit package, comprising:

providing a leadframe having lead fingers extending at least one of parallel,
25 perpendicular, and a combination thereof one to another;

forming blind or through grooves in the lead fingers;

placing a conductive bonding agent in the blind or through grooves; and

placing a passive device in the blind or through grooves to be held by the conductive bonding agent, the passive device extending between the lead fingers.

8. The method as claimed in claim 7 wherein:

providing the leadframe provides the lead fingers having tips of at least one of the configurations of straight, increased, side extension, flared, offset, extended, or a combination thereof;

5 placing the passive device provides for connecting a small, medium, or large passive device between two of the lead fingers; and

forming the blind or through grooves forms the blind or through grooves proximate the tips of the lead fingers.

9. The method as claimed in claim 7 further comprising:

10 forming the lead fingers into external leads around at least a portion of the integrated circuit package; and

placing an additional passive device on the external lead exterior to the integrated circuit package.

10. The method as claimed in claim 7 wherein forming the blind or through
15 grooves includes forming a pair of blind or through reservoirs for the conductive bonding agent adjacent to each of the blind or through grooves.

11. The method as claimed in claim 7 further comprising:

providing a leadframe paddle;

forming at least a groove, a notch, or a relief in the leadframe paddle;

20 placing a conductive bonding agent in at least the groove, the notch, the relief, or a combination thereof; and

placing at least the passive device in the groove, the notch, the relief, or a combination thereof, held by the conductive bonding agent between at least one of the lead fingers and the leadframe paddle, the integrated circuit die and the groove, the
25 notch, the relief, or a combination thereof.

12. The method as claimed in claim 7 further comprising:

bonding an integrated circuit die by at least one of a wire or ball to the lead finger;

encapsulating the integrated circuit die and the lead finger; and

forming at least one of a solder bump or a ball grid array ball on the lead finger
30 outside the integrated circuit package.

13. An integrated circuit package, comprising:

a leadframe having a lead finger having a groove provided therein;

a conductive bonding agent in the groove; and
an electronic device in the groove to be held by the conductive bonding agent.

14. The integrated circuit package as claimed in claim 13 wherein the lead finger has a tip of at least one of the configurations of straight, increased width, side extension,
5 flared, offset, extended, or a combination thereof.

15. The integrated circuit package as claimed in claim 13 further comprising the lead finger formed into an external lead around at least a portion of the integrated circuit package.

16. The integrated circuit package as claimed in claim 13 wherein the lead finger
10 groove includes a reservoir for the conductive bonding agent adjacent to the lead finger groove.

17. The integrated circuit package as claimed in claim 13 further comprising:
a leadframe paddle having a groove provided therein;
a conductive bonding agent in the groove; and
15 the electronic device in the groove to be held by the conductive bonding agent.

18. The integrated circuit package as claimed in claim 13 further comprising:
an integrated circuit die bonded by at least one of wire or ball to the lead finger; and
at least one of a solder bump or a ball grid array ball formed on the lead finger.

19. An integrated circuit package, comprising:
20 a leadframe having lead fingers extending at least one of parallel, perpendicular, and a combination thereof one to another, the lead fingers having blind or through grooves provided therein;
a conductive bonding agent in the blind or through grooves; and
a passive device in the blind or through grooves to be held by the conductive bonding
25 agent, the passive device extending between the lead fingers.

20. The integrated circuit package as claimed in claim 19 wherein:
the lead fingers have tips of at least one of the configurations of straight, increased,
side extension, flared, offset, extended, or a combination thereof;
the passive device includes a small, medium, or large passive device connected
30 between two of the lead fingers; and
the blind or through grooves are formed proximate the tips of the lead fingers.

21. The integrated circuit package as claimed in claim 19 further comprising:
the lead fingers formed into external leads around at least a portion of the integrated
circuit package; and

an additional passive device on one of the external leads exterior to the integrated
circuit package.

22. The integrated circuit package as claimed in claim 19 wherein the blind or
through grooves include at least two blind or through reservoirs for the conductive bonding
agent adjacent to each of the blind or through grooves.

23. The integrated circuit package as claimed in claim 19 further comprising:

a leadframe paddle at least a groove, a notch, or a relief provided therein;

a conductive bonding agent in at least the groove, the notch, the relief, or a
combination thereof; and

at least the passive device in the groove, the notch, the relief, or a combination thereof
is held by the conductive bonding agent between at least one of the lead
fingers and the leadframe paddle, the integrated circuit die and the groove, the
notch, the relief, or a combination thereof.

24. The integrated circuit package as claimed in claim 19 further comprising:

an integrated circuit die bonded by at least one of a wire or ball to the lead finger;

an encapsulant encapsulating the integrated circuit die and the lead finger; and

at least one of a solder bump or a ball grid array ball formed on the lead finger outside
the integrated circuit package.